

ABSTRACT

A system and method for estimating signal parameters (e.g., one or more of frequency, amplitude and/or phase) of one or more tones present in an input signal. The method may comprise first receiving samples of the input signal, wherein the input signal includes the tone, and generating a frequency transform of the samples. The method may then identify an amplitude peak in the frequency transform corresponding to the tone. Two or more frequency bins may then be selected proximate to the identified frequency location in the frequency transform. The method may then determine a tone frequency value that minimizes a difference between two or more expressions. The expressions include numerator and denominator terms that correspond to respective frequency bins, wherein a ratio of each numerator term and its corresponding denominator term represent a complex amplitude of the tone at a respective bin. Each of the plurality of expressions includes a tone frequency variable that represents a correct tone frequency value of the tone. The correct tone frequency value may be determined by computing a plurality of differences between the expressions for different respective tone frequency values of the tone frequency variable, and then selecting the tone frequency value that produces a smallest difference.